Vol. XII. DECEMBER, 1876. No. 12.

Theo. Foley

THE AMERICAN BEE JOURNAL

CORNER OF CLARK & MONROE STS.

DEVOTED EXCLUSIVELY TO BEE CULTURE

ESTABLISHED IN 1861 BY THE LATE SAMUEL WAGNER.

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Bees and their Management	.25
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New Year's Present

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1876. 1876.

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Circulars with directions for use on application.

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Advice to Beginners.

Beginners in bee-culture, who desire to read up in the literature of bee-keeping, are earnestly advised to obtain the first Volume of THE AMERICAN BEE JOURNAL. This volume is worth five times its price to any intelligent bee-keeper. It contains a full elucidation of scientific bee-keeping, including the best statement extant of the celebrated Dzierzon theory. These articles run through all the numbers, and are from the pen of the Baron of Berlepsch. We have a few copies to dispose of at the following low prices: in cloth boards, $1.25; in paper covers, $1.00, postpaid.

Many of our best apiarists say they would not sell their back volumes of THE AMERICAN BEE JOURNAL for ten times the sum they cost, if they could not replace them. They are exceedingly valuable alike to beginners and more advanced apiarists.

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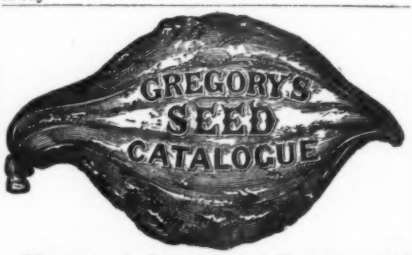

My annual Catalogue of Vegetable and Flower Seed for 1877 will be ready by January and sent *free* to all who apply. Customers of last season need not write for it. I offer one of the largest collections of vegetable seed ever sent out by any seed house in America, a large portion of which were grown on my six seed farms. Printed directions for cultivation on every package. All seed sold from my establishment warranted to be both fresh and true to name; so far, that shall it prove otherwise I will refill the order gratis. As the original introducer of the Hubbard and Marblehead Squashes, the Marblehead Cabbages, and a score of other new vegetables, I invite the patronage of all who are anxious to have their seed fresh, true, and of the very best strain. NEW VEGETABLES A SPECIALTY.
JAMES J. H. GREGORY, Marblehead, Mass.

AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

VOL. XII. CHICAGO, DECEMBER, 1876. No. 12.

The Centennial Honey Show.

It is not very flattering to the bee-keepers of the United States to say that the only exhibits of honey at the Centennial, were those of Capt. J. E. Hetherington, of Cherry Valley, N. Y., and Mr. J. S. Harbison, of San Diego, California.

The Cherry Valley apiary, of Capt. Hetherington, made a fine display of excellent white clover comb and extracted honey and beautiful cakes of wax.

The exhibit of California honey, from Mr. Harbison's apiary, was tastefully arranged in a neat case, containing beautiful specimens of comb honey.

With the display of "California Produce" by Mr. Joseph Newman, we noticed some comb honey, also from the apiary of Mr. Harbison.

The largest display of apiarian supplies was that of Messrs. George Neighbour & Sons, 149 Regent St., London, England. It comprised their cottage hive, observatory hive, cottage frame-hive, divisional super, sectional boxes, feeders, wax guides and plates for making them.

An examination of these was very interesting to one familiar with our American inventions. The "Cottage hive" is of rustic appearance, and neatly made of straw, strengthened with hoops, fitting closely to the wood. It is a two-story observatory hive. It has three windows in the lower story, with a thermometer to indicate the temperature; showing the bee-keeper when to open the three entrances to the upper story, over which there are three large bell glasses to be filled with surplus. The upper story fits over these glasses and may readily be removed for inspection. The bottom board is hinged to the lower story.

The "frame hive" has movable frames fitted with staples to keep them at regular distances, resting on a zinc ledge above.

The "frame unicomb hive" is a novelty which must be seen to be appreciated. It is constructed with glass sides (for observation) and protected with Venetian blinds.

The "divisional super" is very much the same as our sectional boxes. It contains 7 sections or frames; the entrance being through perforations in a sheet of zinc, large enough to admit workers, but not the queen or drones.

The other things exhibited by this enterprising firm were well worth the attention of bee men, but we cannot further particularize.

In other parts of the building we noticed the following:

A model of the Dzierzon-Belepsch observatory hive, containing frames.

The "Centennial bee hive" of Dr. Worrell, West Chester, Pa.; a double-story observatory hive, with iron frames.

The "Champion bee hive" of C. E. Bost, of Davidson College, N. C. It is a peculiar invention, and one not easily described.

C. C. Van Deusen, Sprout Brook, N. Y., exhibited his bee-feeder and other apiarian supplies.

R. R. Murphy, Fulton, Ill., had his extractor on exhibition, as well as F. M. Chapman, Morrison, Ill. These are practically the same machine.

A. C. Attwood, of London, Ontario, also exhibited his Canadian extractor.

C. F. Lane, of Koshkonong, Wis., made a good display of the seeds of honey-producing plants and trees, as well as field, flower, tree, grass, and other vegetable seeds. His is said to be the largest establishment of the kind in the world.

East of the Agricultural building, we noticed D. Latchaw's "Union-section extension hive," which contained a strong colony of Italians. Mr. L. was "on the spot" manipulating this colony and showing the advantages claimed for this hive. The frames are the hive proper, having closely-fitting sides and observatory ends. A close inspection of any part of the hive being readily made at any moment, it is fully under the control of the bee-keeper.

On the last day of our visit to the Centennial we were to have met friend Andrews, of Columbia, Tenn., and with him and friend Coe together, inspect Coe's apiary—but alas for all human calculations, through a misunderstanding about the place of meeting we did not find one another, and so did not examine the House Apiary. As friend Coe has already given our readers a

description of it, and will further supplement it with details of results, it is not necessary here to refer to it further. One thing, however, should be mentioned. Mr. Coe has had it on the ground ever since the opening of the Centennial, and has exhibited it to hundreds who otherwise never would have had an opportunity of examining such a thing.

While at the Centennial we met many bee-keepers from almost every part of the Union, and made many very pleasant acquaintances, and trust that next year we shall renew these acquaintances as well as make more new ones.

To Mr. Coe, THE AMERICAN BEE JOURNAL, as well as many bee-keepers, would render thanks for favors and kind attentions. "So mote it be."

E. GALLUP, who for years wrote largely for THE AMERICAN BEE JOURNAL, as a contributor, writes us as follows: "I am now out of the bee business entirely; not because it did not pay, nor because I did not like the business; but because I have gone into another business that occupies my entire time."

☞The Centennial Show, in the language of all visitors, was *simply immense;* creditable alike to the thousands of exhibitors and the youthful American Republic. As our readers have seen detailed accounts in other papers devoted to "news," we shall not take up our valuable space to speak of it further than our branch of industry is interested.

☞As the P. O. Department now refuse to exchange stamps our friends will please not send stamps of higher denomination than three cents each. Ones, twos or threes are always acceptable for amounts less than one dollar. For one dollar and over send bank bills, postal order, or draft. Don't send "checks" on country banks, as these cost us 25 cents each to get into currency.

☞Several valuable communications intended for the present number are crowded out by the report of the National Convention and the prize essays. All will appear in the January number. This will explain to ALL correspondents the cause of delay.

☞A special arrangement has just been consummated, by which we can supply the following for 1877:

A. B. J. and Novice's *Gleanings* for $2.25.
A. B. J. and King's *Magazine* for $3.75.
All three for $4.00.

CALLERS.—B. Stover, Winnebago Co., Ill.; he has 130 hives, and reports an excellent yield and increase.——T. S. Bull, Porter Co., Ind., has 400 colonies, and has had a large yield and found ready sale at satisfactory prices. He winters in the cellar of his workshop, gives fresh air to it often, and has not lost a colony for several years.——W. J. Ronald, Louisa Co., Iowa, called with a frame and honey box, but as we were away at the Centennial Convention we did not see him. He promises, however, to send samples to this office.——C. Kendig, Dupage Co., Ill.; had 40 swarms in the spring; has 70 now and has taken 2,000 lbs. of honey, mostly comb. He winters successfully in a cellar, well ventilated and so made that changes of weather cannot affect it.——Henry King of Kalamazoo Co., Mich., has 25 swarms from 6 in the spring; though he has paid but little attention to them, he has received a fair amount of surplus.——We had an interesting visit from James Heddon. To say that he is returning to old box hives is not strictly "the truth." His hobby is a peculiar hive, something like the British "bar hive," and is more easily manipulated than most persons imagine. Friend Heddon will test it and report, and if he succeeds in showing less expense and more profit, he will deserve the thanks of all bee-keepers.——F. Grabbe, who was located in Wilmette, in this county, has gone to Louisiana with his bees, in the interest, we understand, of a gentleman of this city, who contemplates establishing a large apiary there, under the supervision of friend Grabbe.——Miss S. L. Vail, of Keokuk Co., Iowa; who has 75 stocks from 47 in the spring, besides 700 lbs. comb and 300 lbs. of extracted honey, and reports a good season.——F. M. Chapman, Morrison, Ill.; he has now only 50 colonies, having run his apiary for increase this year, and found for it a ready sale. His bees are in good order; he winters in a repository built expressly for them.

☞In this number we publish the four essays that were read before the National Bee-Keepers' Convention at Philadelphia. The first (by Prof. A. J. Cook) obtained the prize offered. A careful reading of them all will benefit those who seek light on this all-important subject.

☞We have received an interesting report of the proceedings of the German and Austrian Bee-Keepers' Convention from R. Mayerhoffer, Esq., editor of the *Bienenvater* in Prague, Austria. It will appear in the January number.

Our Exchanges.

GLEANINGS IN BEE-CULTURE.

In our last issue we stated that Novice intended to winter his bees out of doors. "Chaff" is his hobby now. He gives the following as his method of

PREPARING FOR WINTER.

"A frosty morning is an excellent time to remove a set of section boxes and put on the chaff cushions. Approach the hive quietly, and get your screw-driver under the case of sections, or the upper story containing them, and with a quick movement you can snap all attachments, and get the boxes off before a bee has waked up; but now comes the time for action. Have your sheet of duck in readiness, and before a bee can get to the side of the hive, have the cloth tucked closely down all round; put on your cushion, then the cover, and you are all right. If it is an upper story, you can put it back, or another, before you put in the cushion, be sure that you get it all fixed before the bees have time to boil out. They will very likely gather out at the entrance, but don't insult their dignity by walking before them, and all will be well. If you are clumsy, and do not get things fixed expeditiously, you may find hybrids rather worse in frosty weather than at any other time. In fixing our old standard or long hive, we took too much time, and all hands waked up to such an extent that they took entire possession of the corn-popper smoker, and came at us like a very young hail storm. Many of the yellow stocks, will hardly stir, when we raise off a whole set of section boxes."

Novice also gives the following as his method of

PREPARING BEES FOR SHIPMENT.

Be sure the colony has old, strong combs, not too heavy with honey; the great bulk of stores should be near the top bars. If the combs are all right without breaking the fastenings made by the bees, all the better, and you have then only to make the frames secure as they are. We prefer pushing sticks, sawed to the right length and thickness, between the end bars of the frames; this makes all solid and secure, and yet the sticks can be pulled out without removing the combs. Lay another piece across the frames at each end, and fasten it with screws, and the hive will be safe, even if it should be thrown upside down. If the hive has a portico, cover it with wire cloth and let the bees get out in it if they wish; if it has none, cover the frames with wire-cloth, and fasten the cover a little open. If the weather is warm, and the colony very strong, it will be safer to allow them to leave their combs and cluster in an upper story, but ordinary colonies in cool weather may be simply confined with wire cloth. The surface of wire cloth must be large enough so they cannot pack densely over it, or they will be ruined. We have many times seen them, when released, crawl out of their hives in every direction in the dirt, completely demoralized; from insufficient ventilation."

LARGE AND GOOD CROP OF HONEY.

J. S. Hill, Mount Healthy, O., has a honey crop this year of 10,000 lbs. He commenced in the spring with, I believe, 84 stands. He raised also 6,000 lbs. of machine extracted honey, as nice as anybody has, and you know we feel a little proud of the quality of the honey raised in this part of the country. I bought all of his honey, and I am sure I have never before seen as nice a lot of comb honey as Hill's. There was about 3,800 lbs. in combs weighing from 1½ to 1¾ lbs. each. Every comb in the lot was perfect and separate from the rest; it is a model lot of comb honey, and it would do you good to look at it.—*C. F. Muth, Cincinnati, O.*

MOONS' BEE WORLD.

CARNIOLIAN BEES.

Ch. Dadant says he received his expected shipment of Carniolian bees, but only three were received alive. He describes them as follows:

"These queens are as dark as common queens, with some narrow strips of dark leather color. But they are very large. Generally after a long journey the queens are small. The Carniolian are as big as good laying queens, of course it is to be presumed that they will enlarge when rested and laying. The size explains the great fecundity attributed to these queens. Yet it is to be regretted that they are so dark, for their color will prevent their introduction among the lovers of yellow bees. These bees are received for experiments and not introduced for sale."

BEE-KEEPERS' MAGAZINE.

The November number has among other things the following advice, by the Rev. J. W. Shearer, for

STARTING AN APIARY.

"A novice in the business should never attempt to start on a large scale. He should begin with not more than three hives, and increase these as his knowledge and experience increases, by swarming and by procuring from abroad, if thought desirable, after two years experience. The easiest way to get a start is to secure a swarm from some neighbor.

A first swarm is always to be preferred, and if possible from a hive which was known to have swarmed the last year, for then the old queen will be in her second year, vigorous and at her best. A small, late second swarm should be passed by in purchasing. Arrange the frames 1⅜ inch from centre to centre, tilt the hive forward at an angle of 20 or 25 deg., and they will be almost certain to build straight on the comb-guides. If an old hive is purchased let it be a heavy one in the spring with straight comb coming entirely down to the bottom of the hive. Carry it home in your arms or in a spring wagon. Remove it very early in the morning or late in the evening when all the bees have returned home, that none be lost. Blow a little smoke under it, reverse, cover with a piece of cloth which may be fastened by tacking a string around it or strips on the ends, place it on straw in a wagon with the comb running lengthwise the vehicle, drive slowly home and there is

no danger. Handle carefully, and transfer into a movable comb hive, and you are ready to study the mysteries of bee-keeping. Sometimes a start is obtained more easily by taking on shares from a neighbor who already has them in improved hives. They should always be moved at least a mile else many will return to the old stand and be lost. Sometimes bees may be captured from the wood by alluring into an empty hive, entrapping and furnishing a queen as already described. Hives may be increased by having nuclei with fertile queens in the fall and extra combs filled from strong colonies, and increasing to the proper size by "taking up" hives for your neighbors who work on the old plan, and uniting them with the nuclei in the manner heretofore recommended. Be careful to insert combs having pollen into each hive thus made."

J. P. Bruck, our popular friend and president of the county bee-keepers' association, is still at the Los Angeles hotel, in our city, in quite feeble health. Mr. Bruck has done much for the advancement of the apicultural interest in this portion of the State, and we trust that he may be spared for many years of usefulness in the hive of industry. —*Los Angeles (Cal.) Herald.*

Our Letter Box.

Pointe Coupee, La., Oct. 30, 1876.—"Nice and warm weather, and bees gathering honey from aster." W. B. RUSH.

Fairfield Co., Conn., Nov. 13, 1876.—"My bees have yielded 1,000 lbs. of comb and extracted honey this season, besides increasing from 23 to 34 colonies. They are now all in good condition for winter."

S. W. STEVENS.

Santa Clara Co., Cal., Nov. 1, 1876.—"I use the Langstroth hive, with shallow frame, 7 inches deep. The honey-producing season in this part of California has been very good; I have taken from 3 swarms 670 lbs. of extracted honey, and could have taken 100 lbs. more; have increased to 9. Lost by fire in the first season 17 swarms."

S. S. BUTLER.

Hamilton, Ontario, Nov. 13, 1876.—"This has been a grand year for honey in this section. I have extracted, on an average, 100 lbs. per hive, and my bees are in splendid order for winter, with 40 lbs. each, more honey than they will use in my cellar this winter."

"I was much disappointed when arriving at the Centennial on the 6th of Oct. to find an industry so important as that of bee-keeping so poorly represented. But had I not been called away on the 22nd, I might have seen more, as the 25th was the day for a special show. The show of honey in small glass boxes was grand, from Capt. Heatherington of N. Y.; and Mr. Coe's Bee House, which I am not yet convinced is much improvement, though Mr. Coe takes great pleasure in showing all its good qualities, and any other information in the business. He seems to be the only bee commissioner there." W. G. WALTON.

Warren Co., Iowa, Nov. 1, 1876.—"I had 9 colonies last spring, increased to 21, and extracted 1,400 lbs. of honey. They are now in good condition. I use the Langstroth hive." D. E. BRAUGTT.

☞ This number contains "Title page and Indexes" which will be found very convenient for binding the year's numbers. Taken as a whole the volume for 1876, now complete, contains much valuable information.

☞ H. F. WALTON, Grant County, Wis., writes that he has received Vol. I. of THE AMERICAN BEE JOURNAL, and that he is very much interested in its perusal. Those who have never read it should procure it, as there are now but a few copies left, and those few fast getting *fewer*.

☞ From 1,500 to 2,000 of our annual subscriptions run out with this number. We trust all will be prompt in renewing. We intend to make the next volume better than any that has ever preceded it.

The National Convention.

A goodly number of bee-keepers met at Coe's House Apiary on the Centennial grounds, Philadelphia, at 10 A. M., on Oct. 25th, and organized temporarily as follows: R. Bacon, President; J. H. Nellis, Secretary, and J. P. Moore, T. G. Newman, J. S. Hill, J. S. Coe, and R. Bacon Committee of Arrangements. Adjourned to meet at the Atlas Hotel at 7 P. M.

The committee arranged the following programme for the evening meeting—topics for discussion:

Introducing Queens—opened by Dr. E. Parmly, of N.Y.

Uniting Weak Colonies—G. W. Zimmerman, of Ohio.

How to Control Swarming—R. Bacon, of N.Y.

How to Produce the Largest yield of Honey per Hive—J. S. Coe, of N. J.

How to obtain the most Industrious Bees—J. P. Moore, of N. Y.

How can the Interests of the National Bee-Keepers' Association be best Promoted—J. S. Coe, N. J.

On Thursday evening, the grand topic for discussion was "Wintering of Bees," and the reading of prize essays, followed by discussion.

WEDNESDAY EVENING.

INTRODUCING QUEENS.

Dr. E. Parmly (N.Y.) remarked that in introducing queens there had been successes and failures in every method published. He had had many years experience, and was usually successful. He took a piece of wire gauze 3 or 4 inches square, and bent it into a cage, taking out several wires one way, and placed the cage containing the queen over the hatching brood, to get heat from below.

Pres. Bacon (N.Y.) said he had not been successful, and wanted light.

J. P. Moore (N. Y.) said he placed the cage between the brood combs for 48 hours, and was generally successful.

J. H. Nellis asked if caging queens did not sometimes result in their starving. He recommended that when caged, food be put in isolated position, from which the queen could feed. When bees are intent on rearing a queen from their material, they sometimes refuse to feed the queen in the cage.

G. W. Zimmerman (O.) had introduced queens in cages from 36 to 48 hours, (if bees clinched the cage, it was not safe); he then inserted a piece of filled honey comb into the cage and when they had eaten through this, it was safe to let her crawl out into the hive. He thought it advisable to cage the queen always, for sometimes the bees hug her to death.

J. H. Nellis remarked that he would not cage a weak queen.

T. B. Parker (N. C.) had caged a weak queen 60 hours, that had been out 14 days, and she did well. He said queens were often released too soon.

J. S. Coe (N. J.) had caged a weak queen with no workers, that had been injured by a fall. She was fed by the bees, and did well.

T. B. Parker often let a queen loose outside the hive and let her run in.

G. W. Zimmerman had removed black queens and liberated Italians in that way.

A. L. Stanton (N. Y.) pinched the old queen to get the scent; this he rubbed over the Italian queen and immediately released her. He always selected his best queens and introduced 4 out of 6 successfully in that way. Rearing queens wasted too much valuable time in the busy season.

UNITING WEAK COLONIES.

G. W. Zimmerman had made up 40 to 60 full colonies from weak ones, and 7 colonies from nuclei, and wintered them all safely. He filled them with liquid sweets, supplied them frames of comb a little before sundown, when it was a little cool; caged the queen between the frames, and shook the bees down and left them till morning, when they would be all ready to work.

H. L. Leonard (Vt.) asked Mr. Z. if he took the queens away?

G. W. Zimmerman answered that he removed both queens, but introduced one at once. If done late in the season they would create heat by clustering, before morning. He disorganized the stronger colony and put in the weak one with it—and had always done it successfully.

J. L. Beal (Pa.) asked if Mr. Z. confined them in a dark room?

G. W. Zimmerman—Yes; when necessary.

J. L. Beal said he confined and took them to a dark room and united—and after 48 hours to 3 days there was no danger of their returning to their old stands. He let them destroy one of the queens.

Mr. Bradley (Mass.) had doubled 20 or 30 weak colonies. He removed the queens and shook them up on a cloth and let them run into the hive. He found they did not quarrel. He always caged the queen from 12 to 24 hours.

N. N. Betsinger (N. Y.) practiced removing the queens and then throwing them together.

T. B. Parker (N. C.) united colonies successfully by putting a board between them, with a hole in it, late in the evening, and closed the hole for 24 hours, then opened the hole and let them crawl through to the other colony.

Jas. Williams (Tenn.) united successfully late in the fall. The hives being twenty to thirty feet apart are moved nearer every 2 or 3 days, till they are close together. He then removed the queens, took a fresh hive and put in the middle frames from each hive alternately, and then gave them a queen.

Mr. Crane (Vt.) said that it may be a good way, but it is tedious. He took away the queens and stores from weak stocks and let them realize that they were robbed of all but their hives, and then fed them with honey and put them together.

HOW TO CONTROL SWARMING.

R. Bacon (N. Y.) had tried and found how difficult it was to prevent swarming. When they had the fever on, it was hard to get it off. His best plan was to open the hive, after the first swarm came out, and destroy all the queen cells in the frames, and then hive the swarm in the old hive. He had no failures by this plan, and it was an important matter in getting a large yield of box honey.

J. H. Nellis (N. Y.) remarked that it was essential to have one swarm. Then it would be well to have "*cool* headed bees." Some lazy Italians like to swarm, but all preferred cool, industrious bees! He found that they did not swarm as much when a loosely-fitting frame was used. He kept them at work by piling on boxes, and cutting out the queen cells.

J. S. Hill (O.) said that the swarming fever varied with the seasons. He controlled swarming by adding box room as needed. He provided a fertile queen, destroyed all their queen cells and kept them at work in boxes.

G. W. Zimmerman had 175 colonies, but never saw one of them in the air. He kept them shaded, and by keeping the brood chamber cool he prevented swarming.

Jas Williams (Tenn.) had his hives painted a different color on each side—red, white, blue and gray—with a movable alighting-board on each side, which he could so manipulate in the middle of the day as to control swarming by having the hive with four divisions, and compelling those flying out to return to any compartment desired. He let them use the different entrances for ten days at a time, and thus by rotation entirely controlled swarming. He had 300 colonies.

HOW TO PRODUCE THE MOST SURPLUS.

J. S. Coe said that the point was how to produce the largest yield of honey for a term of years—how to make the most money from the bees as a regular income. If swarming can be controlled and colonies can be successfully carried through the winter and spring, an average yield can be depended upon. Healthy, strong colonies in the spring, full of brood, and in condition for gathering when fruit bloom comes, were indispensible. This state could be obtained only by feeding early in the spring; and thus having them ready when fruit bloom came to gather it in.

L. C. Root (N. Y.) remarked that it was absolutely essential to have colonies strong in the spring, in orper to be profitable.

HOW TO OBTAIN INDUSTRIOUS BEES.

J. P. Moore (N. Y.) remarked that the only way he knew was to get good queens

and as hybrids were the most industrious bees, he should say—hybridize.

Mr. Crane (Vt.) found that many colonies were unproductive, and that bees differed in constitution and industry. The safest way was to breed from the most vigorous colonies and increase to strong stocks.

L. C. Root (N. Y.) had received 60 untested queens from H. Alley, and all were very superior. The way was to breed up, and avoid breeding in and in. He felt sure that several were breeding very carefully and with a large percentage of pure Italian bees of industrious prolific character.

THE NATIONAL ASSOCIATION.

J. S. Coe (N. J.) remarked that the National Association should be supported. The chicken interests supported its national association and took means to perpetuate the organization. Each State should be represented by delegates. The State organization should be composed of delegates from county bodies—and they from township societies. The great questions of how best to dispose of our honey, belong to such bodies. We should study to bring producer and consumer together.

Dr. Parmly (N. Y.) said that chickens were gotten from all parts of the world—and we should get bees not only from Italy but Africa, and all parts of the world, to improve our stock. The National Association should import, experiment and find out what to use and what to discard.

J. H. Nellis remarked that by organization we could do many things that now was impossible. The plan mentioned by Mr. Coe was the best way. Delegates should be sent and their expenses paid. They could be instructed to have various themes discussed, and if a fund was provided, prizes could be offered to bring out the best intellect in the country, and thus perfect the science of the apiarist.

R. Bacon remarked that honey was not second to poultry in importance, the world over. If a proper stand be taken we can sustain a successful National, as well as State, county and township organizations.

THURSDAY EVENING.

The Association met and as the first business was the election of officers for the coming year, they appointed a committee to nominate them.

While the committee were in session, Thomas G. Newman remarked that one of the great questions now agitating the minds of bee-keepers was—"How to dispose of honey to advantage." He said that the price asked was no doubt a *fancy* one, and that the sooner it was lowered, the sooner honey would be taken from the list of "luxuries" and be brought into general demand. Now only the rich and extravagant used much honey for the table—but the time was not far distant when it would be used by families of moderate means, and take its place beside that of butter, cheese and cream. If bee-keepers would create a home demand for their honey, by offering it at a reasonable price, they would still get as much as they now do, and save the commissions of middle men, and at the same time be vastly increasing its consumption.

L. C. Root remarked at some length upon his mode of treatment. He said that he permitted swarming just as little as possible, and prevented the desire to swarm; he had taken 10,271 lbs. of honey from 119 colonies.

The committee reported, and the following were duly elected officers of the National Association for the current year: W. J. Andrews, Tenn., President. N. N. Betsinger, N. Y.; J. S. Coe, N. J.; R. R. Murphy, Ill.; G. W. Zimmerman, O.; J. Vandervoort, Pa.—Vice Presidents; J. H. Nellis, Secretary; J. S. Hill, Treasurer.

New York City was selected as the next place of meeting, and the third Tuesday of October, the time. J. S. Coe was instructed to make all necessary arrangements.

The Secretary was instructed to issue an address to the bee-keepers of America—earnestly advising them to organize, and protect their interests; and also to send one or more delegates to the next National Convention, instructed as to how it can best advance the individual interests of bee-keepers at large.

Some desultory conversation was then indulged in by those present, and then a vote of thanks was passed to the proprietors of the Atlas Hotel for so liberally placing its comtortable parlor at the disposal of the Convention.

The essays, for which the N. E. Bee-keepers' Association had offered a prize, were then read. The prize being already awarded by the committee to the essay of Prof. A. J. Cook, of Lansing, Mich.

L. C. Root (N. Y.) remarked that one of the principal points for successful wintering was *perfect quietude*. If the bees were in good condition he never opened his depository from Nov. 15 to May 1. He kept a thermometer suspended through a hole in the floor above, and the temperature did not vary all winter only between 45 to 50 deg.

After some further discussion the Convention adjourned to meet in New York on the third Tuesday in October, 1877.

[Owing to the wonderful grandeur and extent of the display in the Centennial Exhibition it was deemed prudent only to hold sessions at evening. This, together with the natural pressure of business, makes this report rather brief.] J. H. NELLIS, *Secy.*

For the American Bee Journal.

The Prize Essay.

The centennial committee of the North-Eastern Bee-Keepers' Association appointed as the committee of judges on the essays: J. P. Moore, of New York; H. Alley, of Mass., and J. S. Hill, of Ohio.

The judges convened and performed their duties on Thursday evening, Oct. 26.

Four essays were presented, all very useful and instructive papers. The gentlemen who sent the essays are Rev. E. C. Briggs, of Iowa; Dr. W. B. Rush, of La.; Wm. H. S. Grout, Esq., of New York, and Prof. A. J. Cook, of Mich.

After due consideration, the committee awarded the prize to Prof. A. J. Cook, of Mich.

This seemed a worthy dhcision. We can only regret that low finances restrained our giving a prize to each worthy competor. We can but hope that the unsuccessful may appreciate their reward in the good done the mass of apiarists who have failed heretofore in wintering their bees.

J. H. NELLIS,
Sec'y of North-Eastern B. K. Association.

Wintering Bees.

THE PRIZE ESSAY READ BEFORE THE NATIONAL BEE-KEEPERS' CONVENTION AT PHILADELPHIA, PA., OCT. 26th, 1876.

Few manual labor pursuits possess the fascination or the financial possibilities that may be justly claimed for apiculture. Remove from this the uncertainties, with which the late disastrous winters have served to invest it, and it would stand paramount. Hence it is that this subject of wintering bees is of leading importance and well deserves the earnest thought, careful study, and accurate experiments of the most able of our practical and scientific men.

In a brief consideration of this important theme, let us examine the physiological facts that bear upon it, glean what we may from the fields of experience, and then see if we may come to any conclusions that appear to be justified by the premises.

It is a physiological fact, without exception among animals, that exercise and the power to generate any considerable amount of heat, requires food and necessitates excretion. It is further true that bees, unlike most insects, are like the higher animals, more or less active the winter through, and can only subsist in a temperature independent of the surrounding media, which is maintained by the bees themselves. If the temperature of the surrounding media is neither extremely high nor extremely low, that is if it keeps at the proper uniform standard, the bees, like higher animals in like condition, will exercise little, will take little food—and by food I mean all nourishment, including oxygen—and will consequently excrete very little, either in form or fæces, or by evaporation from the general surface of the body. It is further true that bees, from the fact of their confined situation in winter, cannot excrete excessively without rendering the atmosphere about them unwholesome and even poisonous; this with undue fecal deposits is sure to bring disease. Hence our first truth: successful wintering demands a uniform temperature.

It has already been stated that bees take food during the winter. Whatever the temperature, some food is consumed. Now it is a physiological fact, unquestioned, that good health among all animals demands proper food. As tainted water often brings dysentery and death to hosts of our own unfortunate brothers, so no less will unwholesome food bring disaster to the denizens of the hive. Hence our second truth: to winter safely, our bees require sufficient stores of good wholesome food.

The student of bees need not be told that the worker bee is possessed of no great longevity. A worker bee three months a laborer is aged and imfirm. It is equally patent that winter is the trying period when the "struggle for life" is sure to come to the bees. Does the leader of a trying campaign call to his aid men feeble with years, whose very age makes them topple and fall under the first burden that is laid upon them? No more should the apiarist expect a colony of old bees to be able to stand the trying ordeal of winter, and build up the depleted household to its wonted strength as spring draws on. Therefore we announce our third truth: bees to winter well, must be strong in youthful vitality as well as in numbers.

It has been stated that excretion is a certain result with bees, even in winter; though this will be slight if the temperature be kept just right. To prevent any ill-effects from an accumulation of these elements of destructive assimilation—water and noisome gases—there should be absorbents above the bees, which would not only absorb the moisture but permit the gases to escape, without exposing the bees by a too rapid removal of heat. Our fourth and last truth then: covering the bees with some absorbing material that is at the same time a poor conductor of heat, is condusive to safe wintering.

Now let us see if recent experience has sustained the above conclusions; for if we are sure of our diagnosis we may feel confident as to practical results.

And first as to temperature. It is a significant fact that those winters which have been most disastrous have also been characterized by extreme cold. I am well aware that many colonies of bees perished during these winters that were independent of the cold. But we must remember that this is a complex subject, and that several elements must be considered in solving the problem. And just here I would call attention to the fact that many apiarists, because of the complexity of this subject, and because it would not yield a simple solution, have become alarmed and cried epidemic. It is not necessary to show that cold is the only cause of disaster. I myself lost heavily the first cold winter, with my bees wholly protected against the extreme cold. Yet the reason of the mortality was not difficult to find, as will appear in the sequel. During the terrible winter of 1874-5, terrible alike for cold and for bee-mortality, I supervised the preparation of four apiaries for winter. With my own I tried the experiment of putting them into a new depository which I supposed to be frost proof; but during the unprecedented cold of Feb., when the thermometer on three occasions went 25 deg. below, and once to 32 below zero; the mercury in my building even went below zero, near which it remained for a number of days. My bees all died. All three of my neighbors, two of whose bees were not so strong as mine, whose bees I had prepared in precisely the same manner, except that they were amply protected against the severe cold, passed the winter with no loss.

During the winter of 1872-3 I also prepared my own bees and those of one of my neighbors for winter. These were amply protected, and came through not only without loss but in excellent condition. So far as I know there were no other bees saved anywhere in the town.

My friend Mr. John Davis, of Delhi, has passed all these winters without loss. He protects his bees, never allowing the temperature of his cellar to fall below freezing point.

That able and far seeing apiarist, the lamented M. Quinby, was one of the first to discover this fact; and here as elsewhere he gave advice, that if heeded would have saved great loss and sore disappointment.

I could give much further evidence of the same kind were it required, but will only say that though I have studied this subject widely and closely, I have yet to observe aught to invalidate the above stated truth.

We next come to view the second factor in safe wintering: sufficient and wholesome food. That bees need some food to stand between them and starvation, experience has too often proved. This fact will receive universal credence. But that the stores are not always of a suitable character though just as true, is not well understood.

The autumn of 1871—the year of Chicago's great calamity—will ever be memorable throughout our northern States for its unparalleled drouth. Every green thing, flowers included, shriveled for want of moisture. Thus bees were cut off from their usual source of honey. During the same autumn there were an unusual number of plant and bark lice. The willows, the beeches, the tulip trees, in fact almost every plant supported some species of these families of vegetable parasites. The same excessive drought that blasted the flowers favored the development of these withering insects. The bees ever eager for sweets, not able to sip from the flowers, gathered largely from these lice, which secreted a sweetish substance from their bodies. Many observed, and I among the rest, a large amount of uncapped honey or stores as they prepared their colonies for winter, and wondered at so unusual an occurrence. During the succeeding winter I experienced my only other case of disaster in wintering. To be sure the winter was cold, but my bees were so protected that they felt it not. My twelve colonies went into winter quarters quite strong and in fine condition every way, except that they were provisioned with this uncapped honey, which I supposed would be fully capped, as there was yet abundance of time after I last looked at them in the fall. In February I examined my bees and to my great surprise, for this was my first misfortune with bees, I found eight of the colonies dead. I was no less surprised to find the honey still uncapped. Bees usually gather honey and leave it to be capped when the condition becomes such as to warrant it. This never reached the condition of good honey. May this not be why it never was capped? I tasted of the honey and found it nauseating in the extreme. I believe that this unsuitable food killed my bees. What makes this seem more probable is the fact that one of the four remaining colonies, all of which seemed equally diseased and feeble, from which I took all the stores, replacing them with good capped honey, stored early the previous season, commenced at once to revive, recovered entirely before spring, and gave a net return of over seventy dollars the succeeding season. The remaining colonies, which were cleansed of dead bees, permitted to fly, but which retained their unwholesome stores, soon perished. The following spring I examined several defunct apiaries in this vicinity, and in every case found the same condition of ill-tasting stores. Those who, like Mr. Davis, saw that their bees had only good capped stores and were well protected did not suffer loss. Hence I think I am safe in affirming that in this region, one of the chief factors which wrought the disease of that year was unsuitable food.

Our third truth that colonies should be plenteous in young bees as winter draws on, is so compatible with reason that it seems hardly necessary to substantiate it with experiments. In my own experience I have only negative evidence. I have always kept my bees breeding well into autumn and have never suffered by spring dwindling. Mr. Davis reduces the number of his colonies each autumn by destroying the old bees and uniting the young ones, till each colony is strong, and has never suffered loss. A year ago I thought I would put this matter to a test in a small way. In one hive I permitted no brood to hatch after the middle of August but kept the colony strong in old bees. The colony was permitted to fly once during the winter, seemed in good condition, yet showed more dead bees than any other colony. They lived till spring when they died, young queen and all, though the queen lived till after every bee had shuffled off this mortal coil. I hence affirm that whenever there is no fall storing so that brood rearing stops in August, whenever the queen becomes impotent so that she fails to deposit eggs to any considerable number, or whenever the autumn honey yield is so bountiful that the queen has no opportunity to deposit, as has been the case here the present autumn, then the careless apiarist is in imminent danger of experiencing spring dwindling.

All experience shows the importance of absorbents above the bees, for what observing apiarist has failed to notice the moisture in his hives in winter which often induces fungus growth, as seen in mouldy comb. Or in cold winters has failed to note the moisture changed to frost, which in severe weather approximates too near the cluster, often keeping them from the needed stores. Of the evil effects of confined gases I know nothing from my own experiments, and know of only one man who has experimented carefully in this direction—my friend Mr. Townley, of Jackson Co., Michigan. His experimenls as given to me confirm the truth enunciated above. I presume in most cases these gases find means of exit and are harmless.

What are the requisites to safe wintering?

1st.—The colonies must be kept in a uniform temperature, which should never vary beyond the minimum temperature of 35 or the maximum of 45 deg. This may be safely secured by placing them in a dry, dark, well-ventilated cellar, which shall maintain the required temperature. Or in a house with double walls, enclosing a space wide enough when filled in with sawdust to be frost proof, even during the severest winter, and so arranged as to be ventilated without admitting the light. The same results may be gained with the colonies on their summer stands, if we but place boxes or boards around and above the hives, leaving a space of a foot or more to be filled in with sawdust, chaff, straw, or shavings, all of which I have used with perfect success. In this case it may be well to use a tube or portico to the hive so that the bees may fly out should the weather be warm for so long a time that the bees would become overheated and uneasy. The same object may be gained by leaving the front of the hive, which should face to the east, unprotected. Could we be sure of sufficient snow so that our bees could be covered deeply the winter through, we could ask for nothing better. I never had my bees do better than when thus protected, during the disastrous winter of '72-3 when my bees, and those of a neighbor which I arranged, were all that survived in the whole neighborhood.

2nd.—The bees should not go into winter quarters without at least 30 lbs. of good capped honey. If the combs contain uncapped honey it should be extracted. If the apiarist has not the requisite amount of suitable honey it will do equally well to supplement his supply by feeding good, thick honey which has been extracted early in the season, or if that be not at his command a syrup made of coffee A sugar of the consistency of honey, or just so that it will not crystalize upon cooling, will answer equally well. Perhaps the most convenient method to feed this is to put it in a bag made of drilling which is tacked to a strip of wood just like the top bar of a frame, except that it is two inches wide and has a hole cut in the centre 1 inch wide and 2 inches long. Hang this between the frames and the end of the hive, then pour in the honey or syrup. The bees will sip it up and store it away as it oozes through the feeder. Of course the bag should not reach quite to the bottom or sides of the hive. The feeding should be done as early as the last of September, so that the bees may have time to cap the cells before the weather is too cold.

3rd.—Any impotent queens or any not first-class, should be superseded early in the season. If the bees stop gathering in August, feed sparingly, as described above. One-half pound daily will suffice. Again if storing be very rapid in August and September, as it is likely to be where fall bloom is plenty, the honey must be extracted, so that the queen may have a chance to deposit eggs. Brood rearing would have entirely ceased in all my colonies the present season as early as August had I omitted to extract. As it is there is brood in nearly all of them to-day—October 18th. Those apiarists about here who have not extracted may look for spring dwindling the coming spring.

4th.—Immediately above the bees there should be placed a quilt made of good factory, and still above this if the hives permit as in most cases they will, there should be placed a factory bag filled loosely with chaff. This may be from 6 to 12 inches in thickness.

So sure am I that the above methods will succeed without fail, that I sell my bees in autumn, warranting them to winter if I can oversee the preparation. A. J. Cook.

On Wintering Bees.

AN ESSAY BY THE REV. E. L. BRIGGS, READ BEFORE THE NATIONAL B. K. ASSOCIATION, OCT. 26, 1876.

Having investigated this matter closely for years, it is my opinion that THE GREAT and ALL-IMPORTANT MATTER now to be understood, is, *how to manage the apiary so as to carry the bees successfully through the interval from the first of November to the time of fruit blossoms in the spring.* Give to the bee-keeper this knowledge, and bee-keeping is a success.

For the past ten years I have lived right in the midst of the "bee-disease," by which hundreds of colonies have perished all around me; and up to this hour not a colony has perished in my possession from this epidemic, of which I had the handling in the fall and winter.

Forty-eight colonies were wintered at Ottumwa, Iowa, under my direction in the fall of 1871-72, without the loss of a single colony, when other bee-keepers lost almost their entire stock.

I also wintered twelve colonies at home in 1869-70, when every other person suffered great loss, losing none of them; while with sixteen of my colonies which were taken care of by another person, all but two died.

Having investigated this matter to my entire satisfaction, and believing that I can impart the secret of almost entire success, I shall proceed to give my method in the most concise manner, and I shall first notice

THE CAUSE OF LOSS IN FALL AND WINTER.

There are four prominent causes of loss, viz:

1. Starvation.
2. Intense and protracted cold.
3. Damp mouldy combs.
4. Unwholesome or vitiated winter food, causing the so called "bee-cholera."

The one remedy which I propose, will cover in a measure all of these four causes of loss. But I shall first speak of them separately. First:

CAUSES AND REMEDY OF STARVATION.

Starvation will result where the colony lacks a sufficient supply; of course, in the latter part of winter or before spring flowers come, earlier or later in proportion to the amount of honey on hand in the fall, the larger number perish—after moderate weather comes in the spring. The most fatal time is from one to three weeks before the opening of apple blossoms; and if these fail to yield honey, and cold raw weather continues, the danger increases until the blooming of white clover. Fifteen pounds of honey in the hive in the fall, when they go into winter quarters, will under ordinary circumstances give them an ample supply during the five months from November 1st, to March 31st. But it must be real honey, or good syrup made from white sugar of about the same consistency of ordinary honey. Bee-bread, or any other substance will not answer as a substitute. It must be fifteen pounds of *honey* or *syrup*. The cost of 15 pounds of syrup would be about one dollar and a half, when sugar costs 12½c. ₱ lb; and there is no more excuse for letting a colony of bees starve for the lack of a dollar and a half expense, than there would be to let a calf, sheep or other animal starve, because the food necessary to winter it would cost a dollar and a half.

To feed them this syrup, nothing more is necessary than an ordinary glass tumbler, a piece of new cotton cloth, and some wrapping thread. Pour the syrup into the tumbler up to the brim, lay the cloth smoothly over the top, and with the wrapping thread bind the cloth tightly around near the top of the glass, and then turn the glass bottom side up over a hole, upon three little sticks, so as to keep the mouth half an inch above the honey board; do this just at sundown, and the bees will suck the syrup through the cloth and carry it below before morning. Always keep the glass protected from outside intruders by putting on the cover for the honey boxes. For spring feed, in case of destitution, a jill each day will be sufficient to supply their wants, and will also promote early breeding. At the same time give them rye or wheat flour in some sunny nook, spread out thin upon some

boards or shallow box, as a substitute for pollen, until this is supplied naturally from the trees.

INTENSE AND PROTRACTED COLD

is another cause of great loss of bees every winter. In the early part of winter the combs are often filled with sealed honey down almost to the very edges. When this is the case, the cluster is divided off into several little thin layers between the combs, each not over a half inch in thickness, while the combs themselves are nearly an inch thick, keeping these layers thus separated by this inch of comb and honey, which will become cooled down to the freezing point, or below, by the first severe cold of December, often freezing all the bees in a mass at once when they are left on their summer stands, at the beginning of winter. But if fortunately the bees have consumed all the honey within a compass of about four inches every way from the center of their cluster, their winter preparation is now in the best possible condition to resist almost any degree of cold, until they are compelled to leave the cluster in search of new supplies of food. If there is plenty of sealed honey above them, or at the ends of the same tiers of comb, they will gradually move into contact with this honey, and no considerable loss in bees is realized, for they continue to form a dense mass, filling combs and spaces and the requisite warmth is maintained. But if the cold is protracted for weeks together, after they have consumed all the honey in the combs in which they cluster, they cannot cross over to other combs now filled with frost like a mass of snow, to get to their needed supply; consequently they will either starve to death where they are, or freeze in the attempt to reach their frozen supplies. But if they escape both of these dangers, that is—in the fall *in having no convenient clustering place*, on account of too much honey, or later in winter *in not having enough* honey within their reach—on the recurrence of a warm day the frost may melt, and either stand in drops all through the hive, or run down upon the mass of bees, and accumulate upon the bottom board; in which case cold, damp, mouldy combs will result, causing the bees to gorge themselves with honey to keep up their animal heat, and this in turn will result in dysentery,and a large and often total loss of bees.

This loss caused by

DAMP MOULDY COMBS

can be prevented by the method we shall lay down presently, or by a return to the old fashioned "box hive" or "gum" in which the cluster fills the whole diameter of the cavity in which they are lodged, and is always directly under the honey which constitutes their stores, so that the cluster only has to gradually move upward as the honey s needed, in order always to have it within reach, as long as there is any in the hive. But this shaped hive, notwithstanding its advantage in the above respects, will never be adopted as long as surplus honey is the object, without the use of the "Brimstone pit."

A small amount of ventilation by raising the cover, leaving a crack all around of about an eighth of an inch wide, is a partial remedy, but not an entire preventive in our northern latitude.

But by far the greatest cause of winter loss, consists in the fact, that the bees have gathered and laid up

UNWHOLESOME OR VITIATED FOOD.

This is the great and wide-spread cause of the bee cholera, dysentery, bee epidemic, or whatever the name by which it has been called.

There are about three sources which give a supply in times when flowers are not yielding honey in this country, to this unwholesome or vitiated food for the honey bee. The disease is caused by the so called *honey* gathered from either cider, sorghum juice, the juice of grapes which has burst open from wet weather, or the product of the "aphis" or leaf louse called "honey dew," and some years, doubtless by all these together. None of these juices are gathered by the bees, except in times when the honey fails from all other quarters. Some kinds of honey dew are not only sought greedily by the bees, but appear to constitute wholesome food, when obtained, but I am confident that the so called honey dew yielded by red oak in the fall of 1869, caused most of the wide spread destruction of so many colonies all through the middle states and the far west, while the remainder was caused by the juice from bursted grapes, Also in 1871, after a long dearth of honey, caused by exceeding dry weather, just after the grapes began to ripen, we had excessive showers followered by hot sunshine. By two o'clock the next day, after one of these heavy rains, the scorching sun followed by the excessive flow of juice in the vines, had caused the grapes to burst their skins by the thousand. At least one third of the grapes would burst open within forty-eight hours, and the bees lacking all other forage, sought the grapes by the ten thousand for their spoils. Several pounds must have been gathered per colony during that week. But grape juice is not honey; and the bees were compelled to go into winter quarters with this substitute for their fall and early winter food; the consequence was, the colonies perished by the score when the ordinary treatment was pursued.

Sorghum juice has been gathered under like circumstances, and some falls is doubtless the cause of similar destruction. Vitiated food of any like character, whether cider, sorghum, grape juice, or the sweet juices which sometimes issue from punctures in the bark of the red oak, or the excrescences of the aphis, will all tend to produce dysentery, when the bees are confined to such food, and cannot fly out to void their excrement.

If, as was reported, the bees began to fly out and drop upon the ground, and thus die in early fall, they might have been saved by the use of the "honey extractor." Throw out from their combs all unsealed honey, and feed a little syrup in its stead, and the disease will disappear at once.

But as my plan of treatment carried my bees through each winter safely against all these odds, I will now proceed to give it; and would almost guarantee the safety of every colony put up in the order, and according to the plan of the following

CHEAP AND SAFE WINTER RECEPTACLE.

Have a well drained and dry cellar under the room that you use as a kitchen or sitting-room, prepared as follows: Run a tin tube one and a half inches in diameter, from the bottom of your cellar up through the floor

THE AMERICAN BEE JOURNAL

DEVOTED EXCLUSIVELY TO BEE CULTURE

Established in 1861, at Washington, by the late Samuel Wagner.

Thou cheerful Bee! Come, freely come,
And travel round my Floral Bower;
Delight me with thy wand'ring hum,
And rouse me from my musing hour.
Oh! try no more those tedious fields,
My honied treasures all are thine;
Come, taste the sweets my Garden yields,
The bud, the blossom,—all are thine.

—SMYTH.

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of your room, and into the back-side of your stove pipe, so that your stove will make a constant draft upon the damp vitiated air of the cellar. And then open a small hole in some part of your sitting-room, or kitchen floor, so that while the heated air in the stove pipe is drawing up the cold and vitiated air from the bottom of the cellar, the partially warmed air of your sitting-room may descend to supply the draft.

It will be seen at a glance that there can no stagnant air remain in this cellar, but it will be constantly changing, and be consequently kept as pure and wholesome as the air which is breathed by the family. Besides this advantage, the air will be kept 10 or 15 deg. above the freezing point, all the winter, at its lowest. A colony of bees in a cellar with the temperature at the freezing point all winter will be worse off than out upon its summer stand; for the honey in all parts of the hive, except within and above the cluster, will be freezing cold, and of course, any bee which ventures to go among these ice-cold combs, would become chilled and perish. Moisture would accumulate and run down upon the bottom board, mouldy combs would ensue, and these together with a constant chilliness of the outside bees of the cluster, and consequent uneasiness, would cause dysentery and death.

When your cellar is thus prepared, choose a warm dry day, after the bees have had a good fly, and after they are all in, just before night-fall, stop the entrance with a piece of paper, and set them one after another into your cellar, without jarring, and disturbing as little as possible otherwise. Slip a four-penny nail under each corner of the honey board, thus raising it about one-eighth of an inch for ventilation. Set the first upon a scantling, thus raising it slightly from the bottom of the cellar. The colonies can then be set one upon another, until all are in their places, mouth outward from the wall; then open a half-inch orifice at the entrance of every hive, and then close up the cellar, shutting out all the light, and your work is done. If this work is done, say by the middle of November, in latitude 40 deg., they need but little more attention until the middle of February, when if they show any signs of uneasiness, they may be set out upon their summer stands, provided a still, warm, sunny day occurs, but by no means set them out on any day when it is cool, cloudy or windy. If their first flight is upon such a day, thousands will be lost, and the colonies very much weakened. Let the themometer stand as high as 50 deg., and the day still, warm, and sunshiny, and they will have a perfect gala-day. Return them to the cellar in the evening again as before, and they should then remain until the trees and shrubs begin to yield pollen, when they should be set out for the summer, if possible, exactly where they stood the previous year, and upon a still, warm, bright day. Such a winter receptacle, and such an airing in February, has in all cases in my hands counteracted all tendency to dysentery, even with such vitiated food as named above. But the directions must be followed specifically, especially in the following points:

1. They must be put into the cellar when the combs are dry, and before hard freezing weather occurs, strong in numbers and with not less than 15 lbs. of good honey in the hive, not counting grape juice, sorghum juice, or cider, if they have gathered any. It would be better to throw it out with the extractor, if you can without exciting others to rob.

2. The cellar must be dry, well ventilated from the bottom, as directed above or otherwise, and kept at a temperature above 42 deg., but not much above 50.

3. Give them an airing the first warm, still, sunshiny day which occurs after the middle of February.

4. Return and keep them within the cellar till pollen can be gathered, the last of March, or the first of April, then set out upon their stands for the season, as before directed.

Ninety-nine out of every hundred colonies thus treated, with a store of good vegetable *honey*, or syrups, will come out of their winter quarters strong in numbers, and healthy in condition; and will not have consumed more than 10 lbs of honey, leaving enough to carry them on until the time of apple blossoms.

But supposing their food is so vitiated that they begin to die before time for winter quarters; or very shortly after they are put in, can they then be saved? Yes. But it will be at some trouble, and expense. Either warm up your cellar by a stove or take your bees, a few at a time, to a dark room that can be warmed up to seventy or more, and then if possible extract all the unsealed honey in their combs, and if you suspect that any of the vitiated honey is sealed up, uncap and extract so as to leave a brood nest not less than nine or ten inches in diameter. But if all their honey is vitiated, then feed moderately thick syrup, made of good white sugar, putting as much food to each hive, as will make two lbs. per month during the time they are to be confined, either all at once, or part at first and the rest when you give them their airing in February. At any time after they begin to show signs of disease, if you cannot do as above directed, remove the honey board and cover the frames with a piece of an old quilt, but invert a glass tumbler filled with good syrup, as directed for general feeding, directly over the cluster and upon the frames only raised up a little, by three or four small blocks from a fourth to a half inch in thickness. If they take in this syrup, which they will do if the cellar is warmed up a little, the disease will most probably abate. This process should be repeated, giving them a pound per colony every two weeks, as long and as often as any signs of the disease appear. Of course keep the quilt closely tucked around the tumbler to keep the bees from becoming chilled. The honey or syrup ought to be about blood heat when fed to them.

But the question will be natuarally asked:

WILL THIS DISEASE BE LIKELY TO RECUR OFTEN IN THIS COUNTRY?

The bees will be likely to be affected more or less in locations where a drouth occurs as long as they have access to grape juice or sorghum juice, or the juice of the apple. But no matter how dry the weather, the bees can never reach the juice of the grape or or apple unless punctured by other insects or birds, or else burst open by hot and wet weather, following immediately after the drouth. For a bee never yet, of itself,

gnawed through the skin of a grape, or an apple.

The cultivation of sorghum is on the decline, so there is decreasing danger from that quarter; besides the bees only take its juice as a matter of last resort. So if there are fall flowers in reach, even but a few, the bees will not take this juice.

The grape juice only lasts four or five days before the injured grapes dry up, or turn sour, when the bees no longer seek to take up its juice. Knowing the remedy, we can avoid the danger, by setting the bees in a dark cellar during this brief interval. Or if only few grapes are cracked open, the danger is so trifling, that we may pass it by with indifference.

SPRING TREATMENT.

If in the spring a colony is found to have dwindled down to a little cluster insufficient to keep up the heat necessary to rear brood, a brood comb should be given them from your strongest stock, with the young bees just issuing, provided there is a healthy queen in the weak colony. Any weak colony should be strengthened in this manner, provided we wish to save them; otherwise unite them with another colony, reserving the best queen for the united colony.

But we will now suppose that it is the first day of April, and the bees are all upon their summer stands ready to begin anew their season's work; but there are no flowers and not likely to be any for 4 or 5 weeks yet. The weak have been strengthened, the hungry fed, and all crevices securely stopped up, except the fly-hole in front, but

THE SEASON OF DANGER AND CARE IS NOT THEREFORE PASSED.

Indeed a very large proportion of the colonies which die, perish between this date and June 1st. But it is not only our object to keep them from perishing, but to make each one a strong, first-class colony. How shall this be done? A little syrup given each day (as above directed) or, every other day, will not only keep from *starving*, but stimulate to *rapid breeding*. We have now —April 1st—just time for the hatching out of two broods, and 15 days over for the maturing of the last brood, before the blooming of white clover.

All the eggs laid on or before the 1st of April will issue on the 20th. If the combs are again filled about the 20th, the next brood will issue about May 10th. These last will be ready to go forth as *honey gatherers* on the 25th, just about the time that white clover begins to open its first blossoms in the latitude of New York.

Let the process then of feeding begin, in about sixty days before the bloom opens which is expected to yield the largest supply of surplus honey; and your bees will be in the best possible condition to gather it. For every ounce judiciously fed before apple blossoms appear, a pound of honey might be expected as the increase. Thus a gill once in two days, in the absence of honey-yielding flowers, will insure against starvation and a double yield of honey at the same time. Also a frame of empty worker comb, from the outside, may be inserted, once in a few days, as the cluster increases, into the middle of the combs containing brood; but we must be careful to have no more combs there than the bees can cover, else the brood would perish if a cold spell should occur.

If the bees are then brought safely to the commencement of the blooming of clover, it may be said of them, the season is passed and the (old) harvest is ended, and our bees are fairly saved.

Henceforth, the *weather*, the *kind* and *quality* of *bloom*, the *skilful handling*, of colonies, as to *surplus honey*, and *multiplication of swarms*, must determine their fate, and the yield of profits in dollars and cents, or golden nectar.

For the present my task is done, and I close by wishing all manner of sweet and blooming flowers yielding the same, to cover the lawns and meadows over which the busy bee may roam with its musical hum; and also to all bee-keepers who truly love its pleasant appearing, the joys of sweet smiling plenty in lands where "milk and honey flow," in ample abundance, both here and in the great hereafter.

How to Keep Bees Successfully During Winter and Spring.

AN ESSAY BY DR. RUSH, READ BEFORE THE NATIONAL B. K. ASSOCIATION, OCTOBER 26, 1876.

How to keep bees seems to be a rather insignificent query, for many times they keep themselves without the aid or attention of man. But to keep bees *successfully*, is the desired object, and the goal to which all aspire. With all our noted apiarians, such as Langstroth, Quinby, Tupper, and others, as leaders in apicultural science, we yet find difficulties to encounter, that their wisdom has not sufficed to lead us to that desired haven—"perfect success."

Their advice has kept us from being dashed against many a breaker, they have given us light in many dark places, opened up new ideas, settled doubts, and added much to the accumulating fund of apicology. While a Huber has given us a bar hive, Langstroth the frame hive, Italy a superior race of bees, America the honey extractor—with all our knowledge, experience, experiments and useful appliances, the cry is still for greater "success." Man is not satisfied, but still grasping, until like Alexander the Great, who after he had conquered all nations, wept that there was no more to conquer.

We have accomplished a great deal during the past twenty years, and our results have been very successful, compared with the other products of vegetation, it being governed by the atmosphere and climate, none of which are invariably successful. Our knowledge of bee-keeping is not yet perfect and we have much yet to learn, but to suppose that we are to reach a point of perfect success is not admissable, for the various conditions that a colony of bees is subject to does not admit of it. But that we may attain a greater success is the dessideratum of our essay.

Before wintering we must first prepare for it; certain conditions are requisite to enter upon that season of storms, snows, freezes, etc., which interests a Southern bee-keeper but little, bee moths are his storms, and the lack of honey his freezes. Then first we will consider

HIVES.

They should be made of good material, well jointed and painted, so that there be no place for admission of air, moths, etc., except by the regular entrance for the bees, the Langstroth size of hive is the nearest to a standard for capacity, and is the most popular hive in use. They should be two stories, top and bottom close fitting. Entrance for hives full width for summer and one-fourth for winter. Hives should be protected from the weather by a shed eight feet wide and closed up on the west, north and east so as to protect them from wind and rain. If there be good wind breakers on the sides named, and high enough to break all north and west winds, then the shed could be dispensed with. Weak colonies should be put in the cellar or the so-called bee house. I do not propose, nor aim in this essay, to advise the keeping of a number of colonies in various conditions, but to give directions for wintering good colonies—yet I will refer to wintering queens.

In my own apiary, and in that of many others, where the colonies were properly prepared they came through the winter all right. There are so many variations in the conditions of colonies that it requires great care to have all the different points noticed, for one out of twenty would ruin the colony if unobserved.

PREPARATIONS

should begin about twenty days before the usual time for frost. Examine the queen and see that she be prolific; she should have at least as many as three combs in which to deposit eggs, four will not injure them. If she have not room then take out combs of honey and give empty ones placed in the middle of the hive; should you not have empty combs then use the extractor on those that are least capped. Should the hive contain too many bees and they be hanging outside—then brush them off and unite them with a nucleus in the usual way of uniting colonies; close up the entrance and give plenty of ventilation, and on the evening of the fourth day open them.

Should you leave too many bees in the hive at this time of the season, it will hinder brood rearing by crowding out the queen; then you have old bees to winter with. It is my experience that old bees cannot generate as much heat as young ones. then in the spring, soon after your bees begin to fly they die off, and your colony is so reduced that brood rearing cannot be carried on sufficiently; the hive becomes so weak that it perishes during a cold spring night, and if it does not perish, then it is too weak to swarm or gather much honey; then much depends on the age of bees for wintering. With these preliminaries you will begin the winter preparations. Notice the hive every ten days; see that it is progressing as it should.

Buckwheat and golden-rod will now furnish honey for brood rearing and winter stores, and as soon as

FROST OCCURS

to cut off the honey supply, then make a thorough examination of all the colonies; see that they have a queen; clean out the hive; see that they have seven full (and capped) combs of honey, or combs full at least. Where stocks are not strong unite them with others. Make openings through the combs so that the bees may pass through for honey in cold weather. Holes to be cut should be three inches from the top bar, equal distance apart and from each end. Cut two holes in each comb with a tin tube five-eighths in diameter, see that they still have two or three combs for brood. In extracting at this time, do it about the middle of the day and return the combs after the bees quit flying; close one-half of the usual entrance. If all have not seven frames of honey, then feed them; some hives may have too much while others are short, equalize them, and should you still lack, then feed sugar syrup.

Take of crushed sugar, two lbs.; water, one lb., boil, skim and set away to cool. Have empty combs ready, have a board 16x24 inches. Take a common 3 lb. fruit can, perforate the bottom with holes, made with a 10d. nail, lay your board with four inches slant, lay on it your comb. Now have the syrup milk warm. add one teaspoonful of flavoring extract of lemon to each half gallon of syrup, stir gently. Now hold your tin can about a foot or more above the comb and with a tin cup pour syrup into this can, passing it around over the comb and as soon as full, turn the comb over; as soon as filled hang it up and let the syrup drain off before putting combs in the hives. In this way you save 20 per cent. of the syrup over the old tin pan or any other way, for it is already in the comb and ready to be sealed up. Your bees are now to

REMAIN QUIET

until about the middle of Nov. or about the time that freezing begins; do not wait until the great frosts come. But what shall be done with colonies that are still weak? Unite them. We often have queens in nuclei that we will need in early spring; these may be wintered out-of-doors, if they are not too weak. Make a hive with four apartments; have the two middle rooms with an entrance for one in front and the other in the rear, the two side ones with an entrance at each side. In this hive you may winter four queens if you have three pints or more of bees to each queen. Have the divisions made of wire-cloth, the entrances one inch by three-eighths, each department to hold three combs, two of honey and one of brood. Protect this hive by wrapping it up with old clothes during severe cold. A noted bee-keeper has adopted this method after trying many times the house apiary and various other plans.

If you have properly cared for your bees, they are at this time in a fine condition, such as plenty of young bees, plenty of sealed honey and a prolific queen—at the middle of November.

Now procure some bagging or old, coarse coffee sacks; if near a cotton mill, then get the bagging which is cheaper. Also some oat chaff, cut oat-straw or fine leaves (chaff is the best), also some sticks half an inch square and the length the same as the width of the hive inside. With these preparations you will now finish your

WINTERING.

Open your two-story hives, take out all the combs and empty frames in the second story, if there be any honey brood remove it, put on three sticks across the frames, equal distance apart and open each end. This is to give the bees a chance to pass over the combs. Now cut a piece of bagging ½ inch larger than the inside of the hive; if it be

thick one thickness is sufficient, but if not, then two; put on the bagging, see that it fits well, so as not to let the chaff through; put on the second story and fill two-thirds full of chaff, and close the hive tight, except one-half of the usual entrance. Shade the entrance so that the sun's rays will not enter the hive. The philosophy of this plan is this: the bagging lets the evaporation from the bees pass up through it into the chaff, which is a powerful absorbent of dampness. Some advocate straw mats, but they have their objections; the dampness is not absorbed but carried through the pores of the straw, and in case of hard freezing they are stopped up; also in case of rain and sleet, if they be not covered by a shed; lastly, they are too expensive for a large apiary. I need not stop to explain the cause of dampness in the hive, for all know that after a long freeze if you open a hive you will find a large quantity of frost adhering to the walls of the hive; and if bees are put in a house or cellar and the temperature goes below freezing point, they will show more frost or dampness than if in the open air.

Five points need to be observed in a hive for wintering. A good, tight and dry hive; 2nd, no drafts of air; 3rd, a good queen; 4th, young bees and sealed honey. The 3rd and 4th are more necessary for spring. Some may say that that they can't have the hive to contain young bees, another that he cannot have sealed honey. Well, I have directed you and if you do not come through successfully, then do not blame this essay. Unite a sufficient number of your weak colonies to make one of the proper condition. I would prefer to start into winter quarters with one good colony than four poor ones. If you must take them through, winter them the same as you would queen nuclei, or division hives for wintering queens.

Methinks I hear many asking, "How it is that there was such a fatality among the bees during the past four years?" That is easily answered:—the great success with bees in 1870 and 1871. About this time patent hives and Italian queens had a swarming trade; two new bee journals started: increasing was the order of the day, but in 1872 and 1873 (the winter) a reverse of success came; but not yet daunted the novice increased his bees to infinity again, and the winter of 1873-4 showed a much greater fatality; so in 1874-5 the result was about the same as 1872-3. In 1875 the patent hive business declined terribly, Italians increased, the people refused to be duped any longer by hive vendors; and in 1875 they did not want any increase, but honey, so as to pay for their hives and patent moth traps. And the consequence was less increase, stronger stocks, plenty of honey and little or no disease or loss; and the wintering of 1875-6 was a reasonable success. I am safe in saying that the greatest cause of the disasters for the past four years has been—over-increasing.

After having prepared all your colonies properly, leave them undisturbed until severe freezing sets in, then wrap some old clothing around the hives in which you are wintering queens, and no others need it; then leave them until a big thaw in the spring; then leave the cover off during the day for the chaff to dry out. As soon as frost is over, take off the chaff and second story, the sacks and sticks, shake the bagging and put it on again. A fair warm day should be taken for examination of the bees. As soon as breeding begins, which is governed by locality in which the bees are situated. At Pittsburgh, Pa., it begins from the 1st to the 15th of April; in New England states last of April; and if the bees were properly prepared they will now be found in fine condition and ready for

SPRINGING.

Commence breeding by stimulating the bees with uncapping a comb or feeding sugar syrup; prepared and fed in the same manner as directed for fall feeding. You must ascertain how much your hive contains so as to know how to feed. Do not allow them to get short of rations, for if you do they will destroy their brood; the queen will cease depositing eggs, and I care not how much stimulating you do, you cannot start again for a fortnight: and just here let me say a great many stimulate their bees for a time until fruit bloom, then they think that will give plenty of honey, but it does not, then the bees drag out the larvæ, the queen quits oviposition and it is two weeks before any honey comes in, and another week before breeding begins again. It is now time that they should be able to swarm, while they are not yet starting a queen cell, and here is where you make your mistake and springing is a wreck.

Breeding should commence six weeks before the swarming season, and these six weeks will decide your success for summer. After breeding fairly begins do not allow your bees to be short of stores for one day, for just here is where work begins for a successful summer. Feed in a comb placed on the outside of the brood chamber. Ordinarily a hive should be fed once a week, and from 1½ to 2½ lbs. of syrup, as the demand may appear. We have a good example from England this year. Those that fed regularly succeeded beyond all expectation, and those that did not, lost their bees. The whole year depends more or less upon the springing. To know how much feeding should be done, feed sufficient to have at least a half of a comb full all the time. Bees should have water convenient to their hives. Artificial pollen should be given liberally. As soon as breeding begins, place pieces of comb in the flour for the bees to rest on while loading themselves. Some salt water convenient will draw many bees; continue the feeding until you are sure that the bees get plenty of honey; and at any time after this, should rain or cold weather occur to stop the flow, then feed again. After a good yield of honey begins, take out your queen nuclei and make full colonies or give them to queenless ones. This brings us to

SWARMING TIME.

There are three ways of increasing bees, natural swarming, artificial swarming and the nuclei.

As to natural swarming we are never sure at what time swarms may appear, and very often do not swarm at all and cause disappointment to their owner, after many days of watching. A great many "lounge around the corners" and the hive becomes idle and if used for box honey, does little or no good; but if extracted it will set them at work. Again, they swarm before they have queens near ready to hatch; it is ten or twelve days before she is fertilized and from

six to ten before she deposits eggs, making about eighteen days that the hive does no brood rearing equal to one generation of brood, and reducing the bees about thirty thousand,— equal to a common swarm. Again, the young queen may get lost on her bridal trip and cause another long delay to raise another, which they cannot do unless supplied with eggs and brood. The swarm is liable to go off; and last but not least they swarm too strongly and leave the mother hive very weak. In this state I have seen them swarm to death, and at the first swarming too. The artificial mode is not so objectionable as the natural swarming; but has enough to discourage its use. I much prefer the nuclei mode of increase, which will give greater success than either of the other two, and I should not deem my springing successful without it. The natural or artificial modes need no description as they have been so often explained in the books and journals.

First, as soon as your hives become strong and honey is gathered, take the queen out of the hive in which you wish to raise queens. If one hive is not sufficient, use another; after your cells are eight days old, then cut them all out and put them in a queen nursery to be hatched. If you have forty hives, then put nine cells into your nursery, (always keep one extra), or for twenty hives, put in five cells. Start new cells every week as long as you wish to increase, which can be done while the bees gather plenty of honey. As soon as your queens hatch, begin at one end of your apiary and take one frame of brood from each hive, as nearly capped over as you can get it, with adhering bees (be careful not to take the queen out), have ready an empty comb to replace the one you take out, and if an empty comb, then give them a frame. Continue in this manner until you have taken five frames of brood, then put them in a hive and place them where you wish them to remain; now get a queen from your nursery; put the queen in a cage and introduce her to the nuclei; let her remain for one day, then let her out as quietly as you can. Continue this operation until you have gone through all your strong hives, and continue this operation every week as long as you wish to increase and the bees are getting plenty of honey. The hatched queen will be laying eggs; in from six to ten days the brood will be hatching, and by this time you will have a good swarm. The parent hives are not perceptibly weakened; your nuclei has its hive half full of comb, and in a week or more will be full. You have lost no time in the old hive by the absence of a queen; the loss of brood is not missed, the yield of honey is not lessened, and it gives the comb builders a chance, and your nuclei at the end of two weeks is in just as good a condition as by any natural or artificial swarming.

But springing is now over. I have shown you a successful path through winter and spring, and have led you into summer, now while you are looking over your fine lot of honey and rejoicing over your success, I will, with one explanation to follow, step out and wait until you feel like offering a greater prize for summering and falling.

EXPLANATION.

It is presumed that a large majority of bee-keepers have a full knowledge from books and journals, experience, etc., so that it would be in vain for me to take up their time in telling them, in this essay, how to start cells, rear queens, introduce them, also how to increase them during fall (that is the number of bees in a hive), how to tell a queenless hive, moths in a hive, amount of honey and a thousand and one things, necessary in the management of bees that are not at all called for in this essay.

Louisiana, Sept. 30th, 1876.

Wintering Bees.

AN ESSAY READ BEFORE THE NATIONAL BEE-KEEPERS' ASSOCIATION, OCT. 26, 1876.

My plan of wintering and springing bees is to put two swarms into one hive. Have two or more swarms near together, and in this latitude about the first of October arrange them for wintering. Make an outside case large enough to pack with chaff between. I use a frame 10½x14 in. long, and make the outer case 3 feet long by 20 in. wide and 22 in. high. Then I get out two boards 13 in. wide and as long as the case, and place them on the bottom board and the right distance apart for the frames to hang in. The next thing in order is to prepare three division boards—one to be used in the middle between the two swarms composed in part of wire-cloth, so as to give each swarm the heat of the other. The others are to be placed outside of the bees so as to admit a good quantity of chaff at each end. Make the entrances in the side of the hive according to the position of the bees before they are transferred. Also make a bridge like this ⌐ and place on the bottom-board for the bees to pass out under. After the bees are in, pack with chaff all around and on top, with quilts over the bees and two or three small sticks over the frames.

It is generally admitted that strong stocks winter the best, and this arrangement secures all the advantages of strong stocks and some that do not exist in single stocks; as for instance, if one queen is lost it is very easy to unite the bees. They will breed faster in the spring than if separate. In using the extractor I separate them when they crowd their quarters the next season and remove the chaff at the ends and division-boards when necessary, and allow the packing to remain at the sides continually. WM. H. S. GROUT.

Poland Center, N. Y.

For the American Bee Journal.

Introducing Queens.

MR. EDITOR:—We notice in the September number of the JOURNAL that Mr. Dadant criticises quite severely the method for introducing queens, which you published from our circular, in the July number. We are not offended at this, as criticism and discussion elicit truth. The method that you, Mr. Editor, abstracted from our circular was published for the benefit of our customers and ourselves, and of course, was and still is the best method that we know of. In fact we do not hesitate to say that if properly done (and the conditions are simple), not more than one out of two hundred queens will be lost.

We do not claim to be the inventors of the method, as Mr. Quinby recommended it

years ago. We acknowledge that this method cannot always be used, as the person who wishes to introduce a queen cannot always know when she is to arrive. Whenever it is possible, we notify our customers 5 or 7 days in advance of sending queens, so that they can have their stocks ready. Not a few also, order queens sent at a certain time, when the colonies will be in readiness. All good things have their bad points, and this matter of time is the only drawback to the method of any account. The fact that the stock is queenless so long, amounts to very little, as more vacant place is at hand and a prolific queen quickly occupies all the space.

We believe that failure with this method generally occurs from leaving the stock too long. If not attended to until the tenth day, a young queen is often hatched, and she is difficult to find. If she remains, the queen to be introduced is imperiled. We notice that failures with any and all the methods, do not occur frequently with energetic bee-keepers who know their trade. This forces us to believe that most of the failures are due to inattention and inexperience. After a stock has been queenless seven days, it is a very easy matter to find all the queen cells, as they have attained a good size. Commencing at one side, lift out or slide back the frames until you come to brood, pick up the frame and grasping it firmly, give a strong, sudden jerk downwards. This dislodges most of the bees, and the cells are in plain sight. With a pointed instrument pick off all the cells. Proceed in this manner through the brood nest, place all back, close the hive, roll the queen in honey, drop her in through a hole on top, and if you have done your work thoroughly, you need not fear as to results.

Mr. Dadant admits that two queens do sometimes exist in a colony, and the one remaining kills the one to be introduced. The seven-day method effectually prevents this loss.

After the September number of the JOURNAL was issued, several of our customers tried Mr. Dadant's plan, and three that we know of, reported failures while one reported success.

The method of carrying queens for 36 to 48 hours has with us, and with many of our customers, failed to give good satisfaction. When a strong queen is taken directly from a nucleus or stock and put into a cage, the stock just made queenless recognizes her royalty and generally feeds and cares for her, but as she is caged they generally start queen cells. If the bees are fickle, as hybrids and blacks often are, the queen is in peril when released, unless these rudiments of queen cells are removed. But with queens long confined in cages, when subjected to rough treatment in the mails, the case is quite different. To such this caging is most pernicious. We would much rather keep such a queen in a cage supplied with food in our vest pocket, than in a stock of bees, unless food is supplied to her in the hive that the bees cannot get. Even then they seem to prosper better out of the hive, if kept comfortably warm.

We consider the reasons to be these:—The bees know that this queen is strange. She is in a cage and can do them no good. They have plenty of material from which to make a queen. Considering all these points they conclude to let the queen alone, and many times these queens are starved to death, unnoticed by the bees while they are constructing cells. If perchance the queen is alive, the queen cells must be carefully taken off to insure her safety when released, and even then the bees may see fit to start others, sometimes killing the queen at once, at others they keep her for a considerable time, sometimes until the queen cells hatch. During all this time she is kept from laying, sometimes so badly abused that she looses her fertality.

We do not overdraw the case, as we know just such a case this summer with a neighbor, and have known them before. We do not say that success cannot attend this method. We have often succeeded with it. But it is attended with much uncertainty as we are at they mercy of the bee's whims. When a cage is used, it should have a tin band nearly two inches wide at the top. Through this put two small holes ¼ inch from the top. Put in the queen, insert a sponge well filled with honey, stick a large pin through the sponge and through the holes, and hang the cage in the hive. The honey-board or quilt keeps the bees from the top and the queen is secured plenty of food.

When queens are received on short notice we proceed as follows, and succeed well. Go to a stock in normal condition, remove the queen, let the stock remain until evening (it is best to remove the queen early in the day), then take out the combs, forcing the bees to fill themselves pretty well with honey, by the use of smoke. Have some sweetened water, scented with anise or peppermint, in a small sprinkling pot having a fine spray. Spread this evenly over the bees and combs, taking care not to get them too wet. This makes them peaceable and disguises the presence of the queen who can be allowed to run in, or better still, she can be rolled in a little honey and dropped among the bees when the hive is closed. If this is done in the evening, robbers can do little or no harm, as by morning the bees have everything in order.

If honey is scarce or the stock weak, contract the entrance to give them the advantage of the situation. In three days look in, and if queen cells are started take them off. Examine again in seven days, to remove any queen cells that may be started and to see that all is right. We consider the last two methods good, when circumstances require their use. But with them the bees have the power to do as they like. With the seven-day plan they have no alternative but to accept our terms. We hope to hear from others upon this subject.

J. H. NELLIS.

Canajoharie, N. Y., Oct. 16, 1876.

For the American Bee Journal.

Notes by the Way.

We are quite ashamed of our treatment of you, dear old BEE JOURNAL, even though it has been altogether unavoidable. We do not know, really, how many promises we have made to write for your entertaining columns, but we *do know* that many of them remain unfulfilled. But the busy season is nearly over, and with the advent of the winter months, we shall endeavor to make all of our promises good, if scribbling

will do it. It's no easy task to sit down and pen a newspaper article when one has his head and hands full of business; if somebody thinks it is, why just let them try their hand at it.

The honey season is over for '76, and we may safely say that the centennial year has been a failure with us, so far as honey is concerned. The spring was cold, backward and wet, which wasn't at all conducive to strengthening up our decimated stocks very early in the season. The "June roses" (or something else) brought warmer weather, and——rain, rain, rain. For more than two weeks it rained almost incessantly, which of course delayed the advent of the basswood bloom. Finally it cleared up and then came a period of intense heat. Day after day the mercury wandered among the nineties, and when the linden blossoms came it was only to make a call, and a brief one too. It usually yields honey about twenty days, but this season could only afford us ten. Even during this brief period the flow of nectar was very moderate.

The scorching heat still continued, though the bees obtained a little honey from some early sown buckwheat, enough to prevent robbing and to stimulate brood rearing.

The fall harvest commenced about the 10th of August and continued for some 15 days; bone-set, fireweed, and buckwheat being the chief sources of supply. The yield of honey was only moderate, not so good as in former seasons. August is usually the best honey month of the whole season with us; and even this season we would have obtained a fair amount of surplus, had it not been for an unfortunate investment in the comb foundations, about which we may have something to tell the JOURNAL one of these days. The season has been quite poor throughout our entire State, but we learn from our Illinois correspondents that it has been an unusually good one in the "Sucker State," and right glad are we to hear it. We are pleased to learn of the success of our brother apiarists everywhere. We know from experience and observation in this particular field of rural industry, that a man fairly earns all that he obtains, and in too many cases much more than that amount.

We started out with the full intention, Mr. Editor, of giving you our experience with the house apiary, but as it is getting late and we are getting sleepy, will defer it until next month, when we will tell what we know about that particular item, which goes to make up the sum total of modern apiculture. When we take a retrospective glance over these past twelve years, we are led to exclaim with that good old lady, Mrs. Partington, "bless my stars, how our American people do take to new-fangled fixins." We wonder if her son Ike wasn't a bee-keeper? Good night.

HERBERT A. BURCH.

South Haven, Mich., Oct. 19, 1876.

For the American Bee Journal.

A Chip from Sweet Home.

In August my wife and the "old block" from which the chips fly, gave Dr. Derr—living 13 miles distant, near Keithsburg—a fraternal call. The Doctor's apiary numbers nearly 100 hives. He runs them for profit; movable frames (Langstroth), slinger and black bees. He had 100 6-lb. boxes piled in his kitchen, also a quantity of slung honey. A number of his hives are close by his honey. We were surprised to see "nary a bee" prying into those boxes; the doors and windows being open.

My house is 10 rods distant from the apiary, and a little honey on the table covered will attract our Italians, so that we have to close the door. His blacks and my Italians were neither gathering any honey. Italians will find honey or any sweets in more secret or distant places than blacks; this fact we have noticed several times. The Doctor lacked shade; for a few he had tried some corn hills, which he said gave him all the shade he wanted. He has adopted the slates, as well as some other neighbors. Bee-keepers try the slates! they cost but one cent each, and report.

D. D. PALMER.

Eliza, Ill., Oct. 16, 1876.

For the American Bee Journal.

Southwestern B. K. Association.

Persuant to a call issued at the preliminary meeting here on Aug. 17th, a number of bee-keepers met and effected a permanent organization by electing the Rev. Dr. Marshall, of Marshall, Texas, president; Wm. L. Gordon, of Shreveport, secretary; and J. M. Bowles, of Shreveport, treasurer.

On motion, resolved, that the name of this association shall be called "The Southwestern Bee-Keepers' Association."

On motion, resolved, that the chair appoint a committee to draft a constitution and by-laws, and report the same at our next meeting. The following gentlemen were appointed: Wm. L. Gorden, J. M. Bowles, Col. L. L. Tompkins, and W. D. Wylie.

On motion, resolved, that the reading of essays, etc., asked at the preliminary meeting to be read to-day, be deferred until our next meeting.

On motion, resolved, that any person wishing to become members can do so by enrolling their names. The following names were enrolled: Rev. Dr. W. K. Marshall, and J. E. Jones, of Marshall, Tex.; Geo. W. Stoner, Wm. L. Gorden, J. M. Foster, Dr. J. F. Davis, J. M. Bowles, W. E. Paxton, Rainey Carter, and W. D. Wylie, of Shreveport, La.; Capt. O. L. Durham, Keachi, La.; W. C. Hill, of Jefferson, Tex.; G. W. Jefferson, Kingston, La.; and John R. Williams.

On motion, the meeting then adjourned to meet in Shreveport on the second Wednesday in March, 1877, at 10:30 A. M.

WM. L. GORDEN, *Secy.*

For the American Bee Journal

How to Increase the List.

I notice that several persons have offered to give premiums to the one who sends the largest number of subscribers to the JOURNAL before Jan. 1, 1876. All this is good and just right, but it strikes me that we can increase the number of subscribers in another way. My plan is this: Let each subscriber and reader of the JOURNAL make up his mind to send one new name at least. Now let us go to work and do this before the 1st of January, so that when the

new year comes the list of subscribers will be just twice as long as it now is. I intend to find one new name, and if I can't find a man who will subscribe I will make some a New Year's present by sending them the JOURNAL for one year. I have no doubt that we can find (each reader I mean) several new subscribers if we go to work in earnest. I hope no one will read this and not think of it again. Let us make THE AMERICAN BEE JOURNAL the best in the world.

When a stranger writes me concerning bees I always urge him to subscribe to the A. B. J., unless he is already a reader, and I don't forget to give him its address.

We met Bro. Newman at the Convention at Philadelphia, but could not get a chance to talk with him about the above way of increasing the circulation of our favorite JOURNAL. If a few queens, a good bee hive or a good honey extractor will add many names to the list we would be glad to furnish them, but let us in every way increase the number of readers. If friend Newman will give the name of the person who sends the largest number of subscribers I will try and coax him to accept of a present of some kind if anything I sell will be acceptable to him. H. ALLEY.

Wenham, Mass., Oct. 31, 1876.

[Certainly, friend Alley, we will publish the names, and thank you for the liberal offer and suggestions. We hope every subscriber will act upon friend Alley's suggestion.—ED.]

For the American Bee Journal.

Comb Foundation.

MR. EDITOR:—Through the A. B. J. you wish to get the experience of those who have tested comb foundation. I have used a large amount of it this season, and have not read or heard anything that gives justice to its great worth to the bee-keeper. I am astonished that those who say they have tried it and understand the bee business should say that it is cheaper to let the bees build it than to buy it. Perhaps they can drone comb, but not worker; and perhaps they cannot. But we shall see.

Now all bee-men know that bees build comb quickest when honey is plenty and bees strong, and at this time they naturally want to build drone comb, and some bees almost refuse to build worker comb at that season. With the foundation you have a beautiful straight card of all worker comb, every time; and this is just what we all want.

I had a swarm in July that would draw out a card, 12x12, every 24 hours and fill it with eggs. This I kept up for 8 days, making 8 full cards out of one pound of foundation; that being worth $1.00 per lb. in large quantities, make the cards cost 12½ cents each. I might just state here that there is material enough in the foundation to draw the cells out full length, without any additional wax; this I have tested by weighing it as soon as finished, by removing what little honey might be stored it.

Now supposing it takes 25 lbs. of honey to make this one pound of comb, which I believe is what has always been estimated by scientific men, this at 20c. per lb. would be $5.00, which is $4.00 in favor of every pound of foundation, besides the amount of labor saved for our bees. I would like to see a swarm that would build a comb 12x12 per day for 8 days, and get 4 out of 8 worker combs, in a hive not exceeding 14 frames of the above size; allowing they did build the 8 combs in 8 days which I think will never be in our *short days*.

The best way I have tried to put it in the frame, is to cut the piece the full size of the frame, less ⅛ inch at the bottom and ⅛ in. from the sides of the lower half; and the upper half if waxed on the top and down half way will hold it firm, and you will always have straight and beautiful comb. This waxing is best done by having a board fit the inside of the frame and lay the foundation on it while running the wax around. I have done as many as three in a minute in this way. W. G. WALTON.

Hamilton, Ont.

For the American Bee Journal.

The Bee-Wolf.

I read in your valuable BEE JOURNAL on page 257 (October, 1876), a very interesting article headed "Bee Killers." Though these enemies of bees, described by Mr. C. V. Riley, are not to be found in Germany, we have a somewhat similar bee killer who did much damage to our bees last summer. It is popularly known as the bee-wolf. This insect resembles somewhat the common wasp, only it is slender.

The bee-wolf is of the wasp species and lives alone—single. The female digs a funnel 12 inches deep in a sunny and sandy place; then it catches a bee, kills it with its weapon and carries the dead body into its funnel, where it lays an egg on its prey. This egg will hatch very soon and the larvæ will feed upon the dead bee.

The bee-wolf catches the bees in the air or on the entrance of the hive. It preys almost exclusively upon the honey bee. Never before have German bee-keepers seen such swarms of these bee killers as during the past summer. There was no remedy to prevent the damage of this cruel insect. The hives were depopulated; in consequence, our honey harvest was much smaller than the year before.

C. J. H. GRAVENHORST.

Brunswick, Germany, Oct, 25, 1876.

A TOWN LOT FOR NOTHING.

We would call the attention of our readers to the advertisement of the Ohio, Kentucky and Texas Land Company, and to their very liberal offer. The Company is only carrying on, on a large scale, what is done every day in our large cities- selling alternate lots to induce settlers and increase the value of the remaining lots—with this difference: that this Company GIVES AWAY their alternate lots. Mineral City is a growing town, and will undoubtedly become a large city, when the lots that are now given away will be very valuable. The offer is *bona fide*, and only open for thirty days, as the demand will exceed the supply, and the Company will not dispose of all their lots free. The Company is composed of reliable gentlemen, and our readers can be assured that they will, by complying with their instructions, receive, by return mail, a warranty deed to a town lot, which can be held for further use, or sold, or settled upon, as the owner may please.

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Our Premiums for Clubs.

A. G. Hill has sent us one of his Gas Pipe Extractors to be presented to the person sending in the largest club of new subscribers to THE AMERICAN BEE JOURNAL before January 31, 1877. The Extractor is light and extremely simple. We will pay the express charges, so that it shall be "without charge" to the recipient.

D. A. Pike will present one of his beautiful Albino Queens—whose progeny will be one-half Italians and one-half Albinos—to the getter up of the *second* largest club of subscribers. The Albino will be sent, postpaid, May 1, 1877.

We will add the following:

For the *third* largest list, we will send a tested Italian queen in May, 1877.

For the *fourth* largest list, we will send 500 young tulip trees (4 to 8 inches high) in April or May, 1877.

For the *fifth* largest list, we will give a copy of THE AMERICAN BEE JOLRNAL for 1877, post-paid.

For the *sixth* largest list we will send, post-paid, a copy of Vol. I. of THE AMERICAN BEE JOURNAL, bound.

See our club rates on page 315 of this issue. Names and money can be sent in as received, mentioning that you wish to compete for the prizes, and we will open an account accordingly. Work should be commenced *at once*.

Honey Markets.

CHICAGO.—Choice white comb honey, 18@25c. Extracted, choice white, 8@18c.

CINCINNATI.—Quotations by C. F. Muth. Comb honey, in small boxes, 15@30c. Extracted, 1lb. jars, in shipping order, per doz., $3.25; per gross, $36.00. 2 lb. jars, per doz., $6.25; per gross, $70.00.

ST. LOUIS. — Quotations by W. G. Smith. Comb, 20@25c. Extracted, 10@12½c. Strained, 7@9c.

INDIANAPOLIS.—Quotations by Barnum Bros. & Co. Choice comb honey in small section boxes, 18@20c.; extracted in 50 and 100 lb. cans, 12@15c; 1 lb jars $3 per doz.; $35 per gross. Mason quarts, with comb, $8.50 per doz.; $95.00 per gross.

SAN FRANCISCO.—Quotations by Stearns & Smith. White, in boxes and frames, 10@15c. Light, 7@9c. Dark, 5@7c. Beeswax, 27½ cts.

We have no change to note in quotations of honey. Stock working off fairly. Beeswax is dull at 25@27½c. silver.

Nov. 15, 1876. STEARNS & SMITH.

We will present 100 tulip trees to any person sending one or more new subscribers for 1877. See Club Rates on page 315. The trees will be from 4 to 8 inches high, and will be sent in November or May, as desired. Those desiring these trees must mention them when sending in subscriptions.

☞ We have received a nice stereoscopic view of the apiary of friend Will M. Kellogg, Oneida, Ill., for which he will please accept our thanks.

☞ C. F. Muth reports honey trade lively but at prices slightly reduced from last year's figures.

GREGORY'S SEED CATALOGUE.—Our readers will find the catalogue of J. J. H. Gregory's well known seed house advertised in our columns. For freshness and reliability of the seed sent out and enterprise in introducing choice new vegetables to the public, Mr. Gregory is endorsed by the prominent agriculturists of the United States; as recommendations from over forty States and territories to be found on the cover of his catalogue, amply attest.

MICHIGAN BEE-KEEPERS' ASSOCIATION.—The tenth annual session of the above association will be held in Kalamazoo, Mich., on December 20 and 21, 1876. The established character of this association, so widely and favorably known among scientific apiculturists, renders an extended notice unnecessary. The public need no assurance from us that the coming session will be one of rare advantage to all who are interested in bees and honey. HERBERT A. BURCH.
South Haven, Mich.

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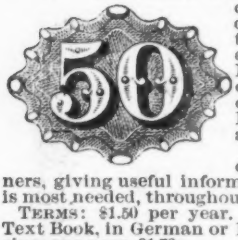

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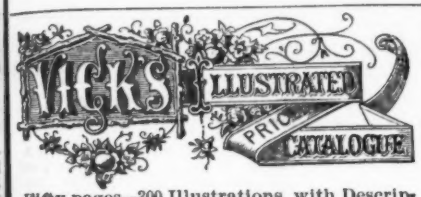

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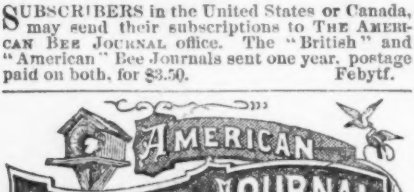

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